

G. W. HOWELL.
PLUG-TOBACCO MACHINE.

No. 176,637.

Patented April 25, 1876.

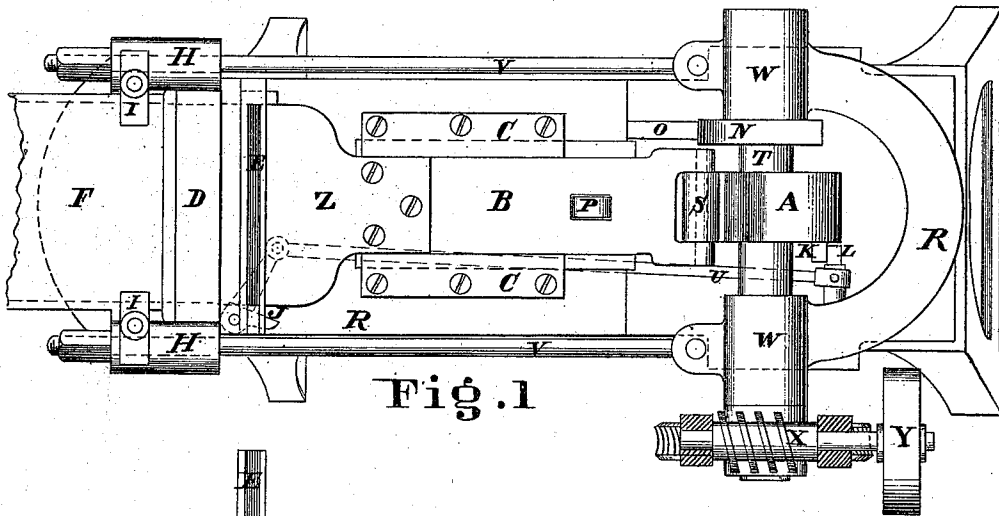


Fig. 1

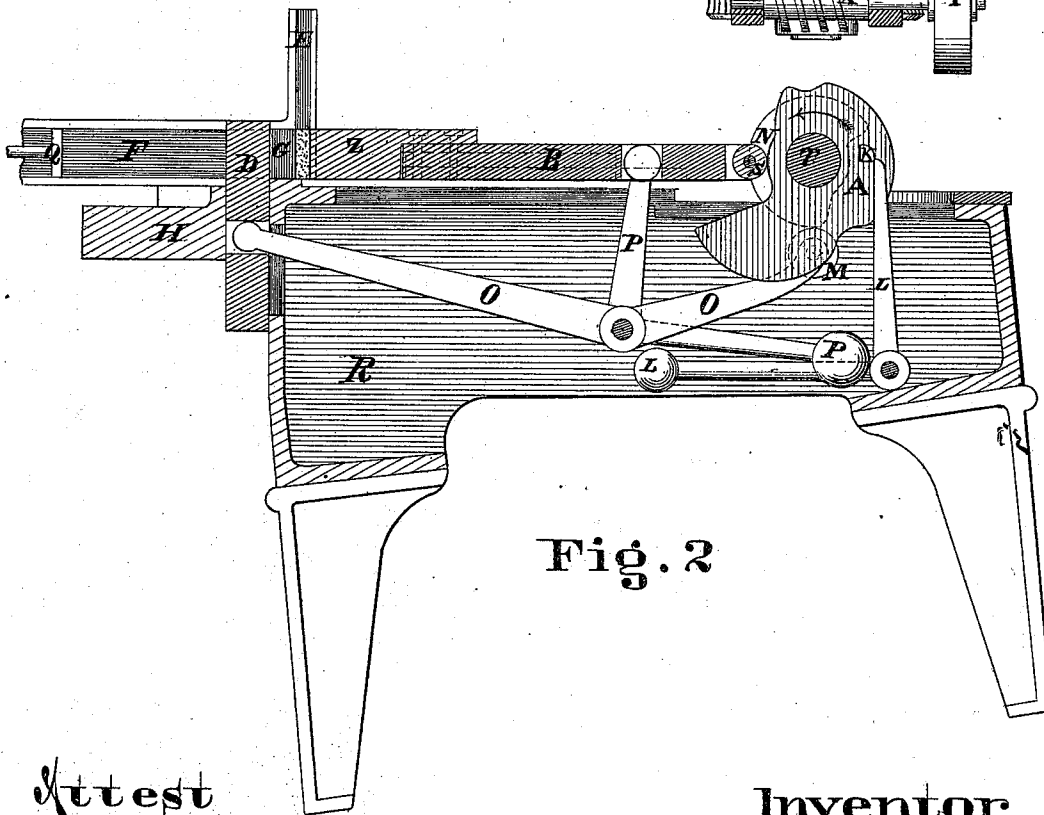


Fig. 2

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UNITED STATES PATENT OFFICE.

GEORGE W. HOWELL, OF COVINGTON, KENTUCKY.

IMPROVEMENT IN PLUG-TOBACCO MACHINES.

Specification forming part of Letters Patent No. **176,637**, dated April 25, 1876; application filed June 26, 1875.

To all whom it may concern:

Be it known that I, GEORGE W. HOWELL, of Covington, in the county of Kenton and State of Kentucky, have discovered certain new and useful Improvements in the Art of Pressing Plugs of Tobacco, and have invented machinery for practicing such art, of which the following is a specification:

This invention relates to machines for making plug-tobacco; and the improvements consist of a novel construction and arrangement of parts, which are fully hereinafter described, and specifically pointed out in the claim.

Figure 1 is a plan view, and Fig. 2 a vertical section through the center, of the machine.

R represents the main frame of the machine; X, a worm-gear, driven by power applied by a belt or otherwise at Y. T is the main shaft, carrying the cams A and N, and being driven by the worm-gear. B is a plunger-arm with anti-friction roller S, driven by the cam A, which is irregular, as shown. C is a guide for the arm B to play through; Z, the plunger-head attached to the arm, as shown, so that it may be removed and replaced by one of different size; D, an abutment, moving up and down in a groove, and situated on the lever O, which carries a friction-roller, M, and is operated by the irregular cam N. H is a strong carrying-frame for the abutment, adjustable on the rods V; J, a guide connected with the weighted lever L by the rod U, and through L is opened and closed by virtue of the weight on and the contact of L with the projection K on cam A. Only one guide is shown; but, if desired, a similar one may be used at the opposite side. G is a former, corresponding in size to the size of plug to be pressed, and E is a chute, into which the unpressed plugs are put at the top. F is a strong box the size of the plugs, but of any length, intended to receive the plugs after being pressed. It may be bolted together or hinged. Q represents a sliding sustaining-head, which may be kept in contact with the received plugs by a cord and weight, or any other suitable means; but

where the sides of the receiving-box afford sufficient resistance to the advance of the plugs it may be dispensed with. P is a weighted lever, which carries the plunger back.

Operation: Fig. 2 shows the machine open, with a plug (represented by dots) in front of G, having dropped from the chute E within the guides J, the cam A being caused to traverse in the direction of the arrow. The plunger is advanced and the guides J gradually closed on the ends of the plug, so as to prepare it for entering the mold without injury to its wrapper. The plunger continues to advance until the desired compression has been effected, when, being released from force by virtue of a recess in the cam, it is caused to slightly recede by the weighted lever P. At the same time, M having been released by the cam N, the abutment D drops by its own gravity, so as to leave a free passage for the plug to pass to the receiver, and immediately the plunger advances again, but with diminished pressure, and forces the plug into the receiver F. This being accomplished, S is released from pressure by its cam, and the lever P brings the plunger back to its original position, as seen at Fig. 2; and just before this movement is completed, M having come in contact with its cam, the lever O forces the abutment D back to its original position. At the same time, L having come in contact with K, the guide J is opened, and another plug having dropped out of the chute immediately after the plunger passed in front of its discharge-orifice, everything is ready to repeat the operation, each plug, as it is deposited in the receiver, advancing those preceding it. This may be continued until the plugs are forced out at the other end, or the receiver may be removed with its charge and replaced by another.

The machine is made inclined, so as to cause the plugs, as they drop from the chute, to recline against the head of the plunger, and thereby secure their being carried into the mold edgewise.

It is obvious that the process may be prac-

ticed with great rapidity, and that the pressure to which the plugs may be subjected is only limited by the endurance of the metal.

Having thus described my invention, what I claim is—

The combination, in a tobacco-pressing machine, of the former G, pivoted guide J, vertical chute E, receiver F, automatically-adjusting abutment D, and reciprocating plun-

ger Z, the whole constructed and arranged to operate substantially as herein shown and described.

In testimony whereof I have hereunto set my hand this 23d day of June, 1875.

G. W. HOWELL.

Witnesses:

EDWARD BOYD,
JOHN O'GARA.